Remarks

Claims 1-23 were originally presented in the subject application. Claims 24-36 were added herein. Claims 1-4, 6, 9, 11, 14, 17-19, 22 & 23 have herein been amended to more particularly point out and distinctly claim the subject invention. No claims were herein canceled. Therefore, claims 1-36 remain in this case.

The addition of new matter has been scrupulously avoided. In that regard, support for the common amendments to claims 1 & 14 can be found in the specification at, for example, p. 9, lines 12-18; p. 10, lines 5-6; and p. 12, lines 6-10. Further, common amendments to claims 17 & 22 are supported by the above-listed citations, as well as at p. 11, lines 3-5. Finally, amendments to claims 4, 6, 9, 11, 18, 19 & 23 ensure consistency with the amended language of the independent claims from which they directly or ultimately depend.

Applicants respectfully request reconsideration and withdrawal of the various grounds of rejection and objection.

Claim Objection

The Office Action objected to claims 2-3, stating that "circuit" (i.e., "circuit" in "clock and data recovery circuit") should be apparently replaced with "means" to remain consistent with claim 1.

In response, applicants have amended claims 2 & 3, replacing "circuit" with "means" as described above.

Applicants respectfully submit that the claim amendments satisfy the Office Action's requirement for correction, and therefore, the claim objection should be withdrawn.

<u>35 U.S.C. §102 Rejection</u>

The Office Action rejected claims 1-5, 9-10, 12, 14-17 & 21-23 under 35 U.S.C. §102(e), as allegedly anticipated by Schneider (U.S. Patent No. 6,201,829 B1). Applicants respectfully, but most strenuously, traverse this rejection.

Amended claim 1 recites a technique for testing a clock and data recovery (CDR) circuit, which includes, for example, generating test data that comprises a frame header; converting the test data into serial test data; recovering the clock and test data from the serial test data; converting the recovered serial test data into recovered test data; and comparing a beginning portion of the recovered test data to the frame header. A match between the beginning portion of the recovered test data and the frame header indicates a positive outcome of the testing of the CDR circuit.

Schneider describes a built-in self test pattern generator that generates and transmits a series of 10-bit patterns, which are processed and subsequently received and analyzed to determine if received 10-bit patterns match transmitted 10-bit patterns (see Abstract thereof). The generation and analysis of the 10-bit patterns in Schneider is quite different from the generation and analysis of the test data byte in the present invention.

For example, as noted above, the present invention (as amended herein) recites an analyzing means that compares a beginning portion of the recovered test data to the frame header, wherein a match therebetween indicates a positive outcome of the testing of the CDR. In contrast, a positive outcome of Schneider's test of a transceiver circuit is indicated by a comparison of an entire 10-bit pattern received to an entire 10-bit pattern generated (see, e.g., lines 14-22 of the Abstract; col. 5, lines 12-16). Applicants submit that such a "whole to whole" comparison that indicates the positive test outcome in Schneider does not describe or suggest a beginning portion of recovered test data being compared to a frame header (i.e., a header part of a frame), which indicates the positive test outcome in applicants' claimed invention.

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Therefore, applicants submit that amended claim 1 cannot be anticipated by Schneider.

Amended claim 14 contains limitations similar to those noted above with respect to claim 1. Thus, the remarks made above with respect to claim 1 are equally applicable thereto. Therefore, applicants submit that claim 14 also cannot be anticipated by Schneider.

35 U.S.C. §103 Rejection

The Office Action rejected claims 6-8, 11, 13 & 18-20 under 35 U.S.C. §103(a) as being allegedly unpatentable over Schneider. Applicants respectfully, but most strenuously, traverse this rejection.

For the same reasons noted above relative to the §102 rejection, applicants submit that Schneider does not suggest or imply the positive test outcome being indicated by the above-described comparison. Thus, applicants submit that claims 1 & 14 are not rendered obvious by Schneider.

Furthermore, applicants submit that claims 6-8, 11, 13 & 18-20 are not rendered obvious by Schneider for the same reasons as the independent claims from which they directly or ultimately depend (i.e., claims 1 & 14).

New Claims 24-36

Applicants added new claims 24-36 to recite the limitations of claims 1-13 (as originally filed), and further recite that the outcome of the testing of the circuit comprises indicating improper operation of the clock and data recovery (CDR) means. Support for this characterization of the CDR testing is found throughout applicants' application, and in particular, at p. 1, lines 9-10; p. 4, lines 25-26; p. 12, lines 8-10; and in FIG. 3.

In contrast, Schneider discloses a technique for determining if the entire transceiver circuit is correctly operating (see, e.g., Abstract; col. 5, lines 15-17). If the Schneider test

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indicates an inoperable transceiver circuit, there is no specific indication of which component or components within the transceiver circuit are inoperable, let alone an indication that the CDR, in particular, is inoperable. Thus, the test result of inoperability in Schneider is less specific than applicants' recited outcome of testing that indicates improper operation of the CDR.

Therefore, applicants submit that the subject matter of the above-identified new claims is not taught, suggested or implied by Schneider.
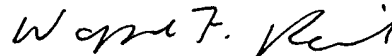
CONCLUSION

Applicants submit that the dependent claims not specifically addressed are allowable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their additional limitations.

Applicants acknowledge the references cited in the Office Action, but not substantively applied. However, applicants submit that the pending claims are patentable thereover as well.

For all the above reasons, applicants maintain that the claims of the subject application define patentable subject matter and earnestly request allowance of claims 1-36.

If a telephone conference would be of assistance in advancing prosecution of the subject application, Applicants' undersigned attorney invites the Examiner to telephone him at the number provided.

Respectfully submitted,

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